



National Transportation Safety Board Aviation Accident Final Report

Location:	DENVER, CO	Accident Number:	DEN91FA098
Date & Time:	07/08/1991, 2036 MDT	Registration:	N8404
Aircraft:	BOEING 707-323C	Aircraft Damage:	Substantial
Defining Event:		Injuries:	N/A
Flight Conducted Under:	Part 121: Air Carrier - Non-scheduled		

Analysis

DURING ROTATION ON THE TAKEOFF ROLL, THE NOSE LANDING GEAR CAME OFF THE AIRPLANE AND REMAINED ON THE GROUND. AS THE AIRCRAFT PASSED OVER THE NOSE LANDING GEAR ASSEMBLY, DAMAGE OCCURRED TO THE BELLY OF THE AIRCRAFT. TAKEOFF WAS COMPLETED AND AN EMERGENCY LANDING WAS CONDUCTED WITH THE MAIN LANDING GEAR AND THE STUB OF THE NOSE LANDING GEAR SHOCK STRUT EXTENDED. DISASSEMBLY OF THE SHOCK STRUT INNER CYLINDER REVEALED THE ABSENCE OF SEVERAL PARTS. THE AREA WHERE THESE PARTS ARE LOCATED IS A SEALED AREA THAT WAS NOT COMPROMISED. THIS DISCREPANCY ALLOWED A RETENTION NUT TO BACK OFF WHICH RESULTED IN NOSE GEAR SEPARATION. THE NOSE GEAR ASSEMBLY WAS OVERHAULED ON 9/4/85.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: IMPROPER OVERHAUL OF THE NOSE GEAR ASSEMBLY BY OTHER MAINTENANCE PERSONNEL.

Factual Information

Aircraft and Owner/Operator Information

Aircraft Make:	BOEING	Registration:	N8404
Model/Series:	707-323C 707-323C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:		Serial Number:	19582LINE663
Landing Gear Type:	Retractable - Tricycle	Seats:	7
Date/Type of Last Inspection:	Unknown	Certified Max Gross Wt.:	322300 lbs
Time Since Last Inspection:	0 Hours	Engines:	4 Turbo Fan
Airframe Total Time:		Engine Manufacturer:	P&W
ELT:	Not installed	Engine Model/Series:	JT3D-3B
Registered Owner:		Rated Power:	18500 hp
Operator:	SOUTHERN AIR TRANSPORT (SAT)	Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	CJMA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Dusk
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Scattered / 12000 ft agl	Visibility	50 Miles
Lowest Ceiling:	Broken / 25000 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	190°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	
Precipitation and Obscuration:			
Departure Point:		Type of Flight Plan Filed:	IFR
Destination:	KANSAS CITY, MO (MCI)	Type of Clearance:	IFR
Departure Time:	1945 MDT	Type of Airspace:	

Airport Information

Airport:	STAPLETON INTERNATIONAL (DEN)	Runway Surface Type:	Concrete
Airport Elevation:	5333 ft	Runway Surface Condition:	Dry
Runway Used:	17	IFR Approach:	None
Runway Length/Width:	12000 ft / 200 ft	VFR Approach/Landing:	Precautionary Landing

Wreckage and Impact Information

Crew Injuries:	N/A	Aircraft Damage:	Substantial
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	N/A	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	NORMAN F WIEMEYER	Report Date:	07/13/1993
Additional Participating Persons:	BOB HOFER; DENVER, CO		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).